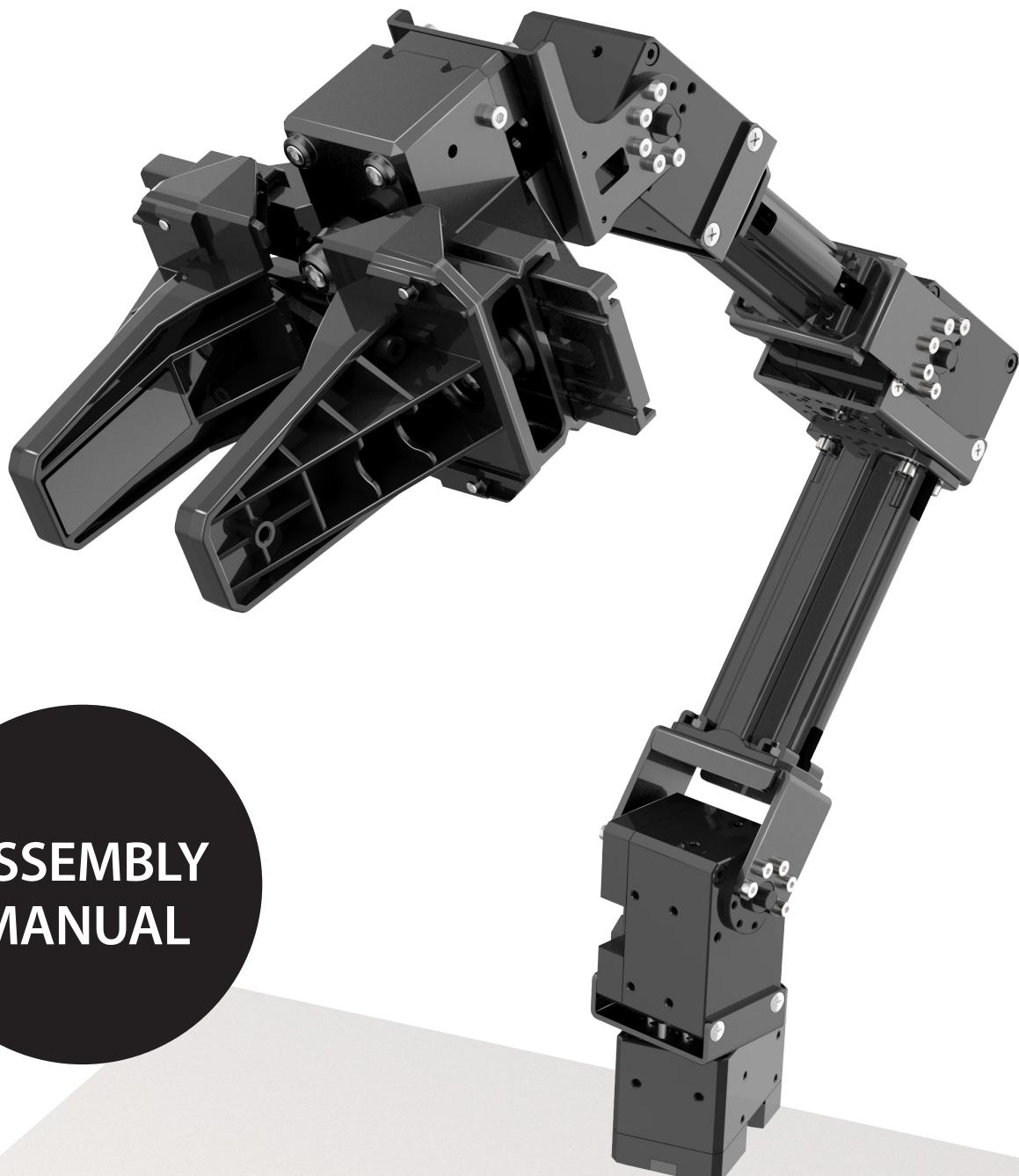


OpenManipulator-X



ROBOTIS

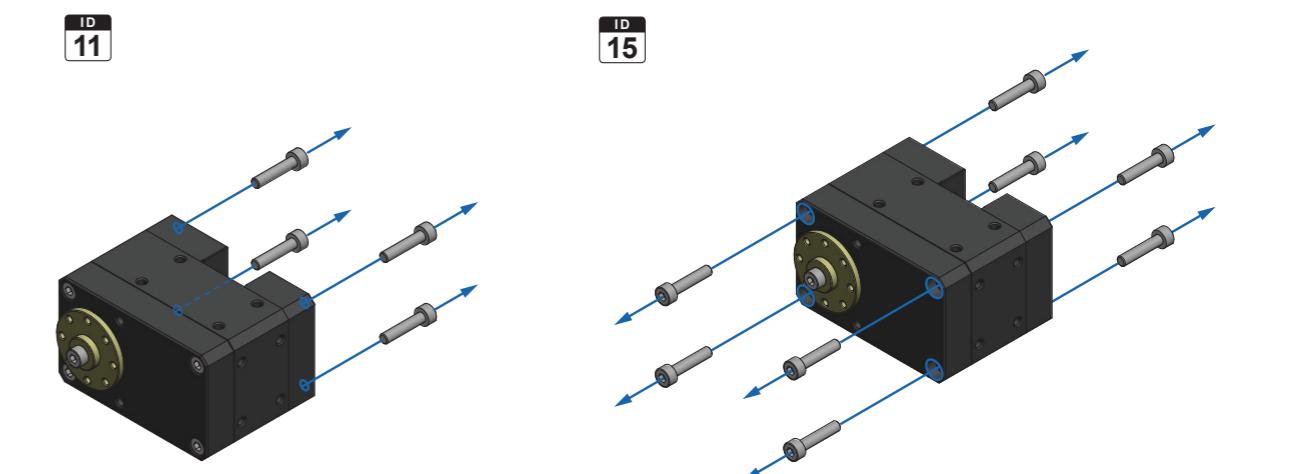
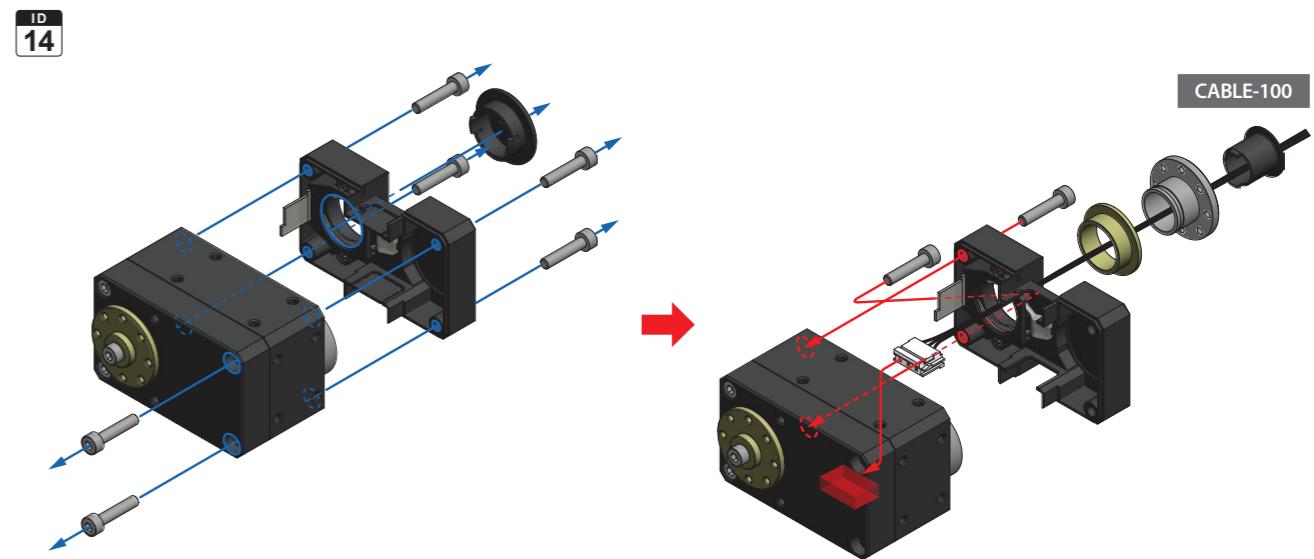
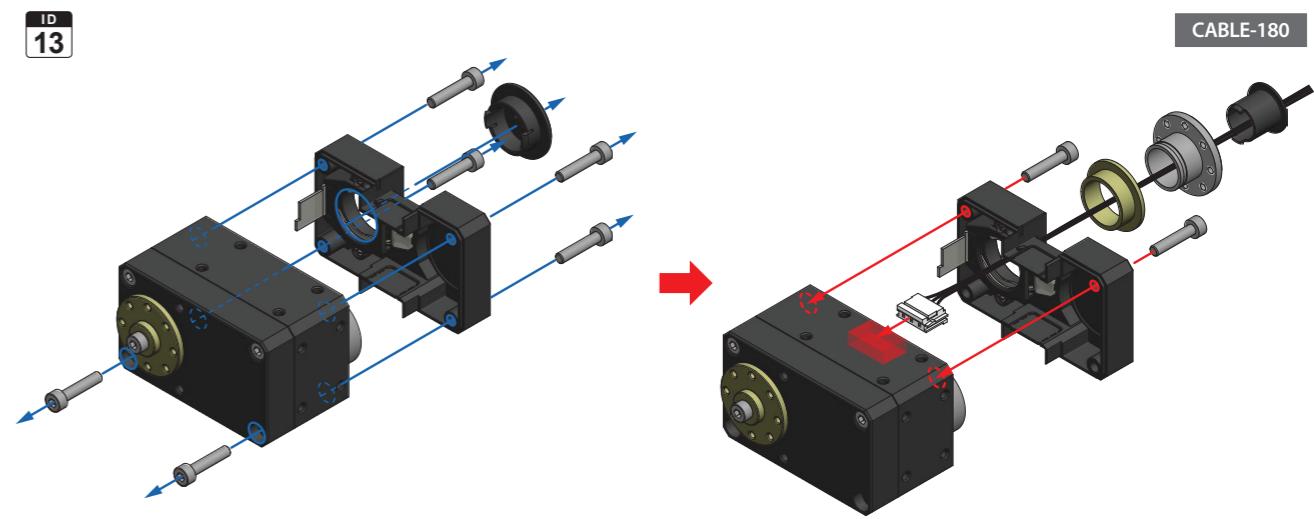
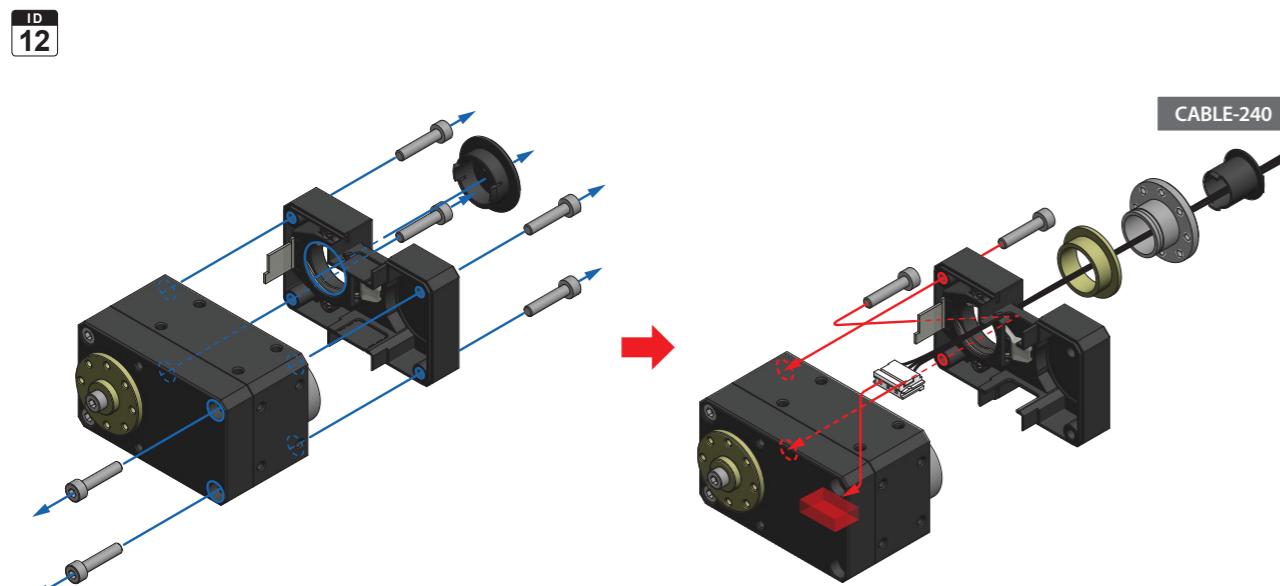
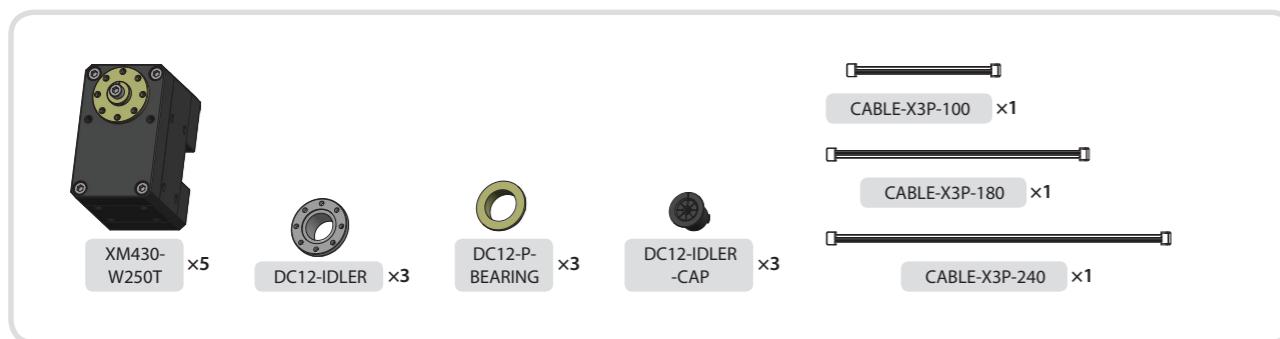
DYNAMIXEL Preparations (XM430-W350-T)

⚠ CAUTION

1. Please read the assembly manual carefully.
2. Please check DYNAMIXEL IDs and lengths of cables, and assemble DYNAMIXELs.
3. Please confirm the directions of DYNAMIXELs and the gripper are correct.

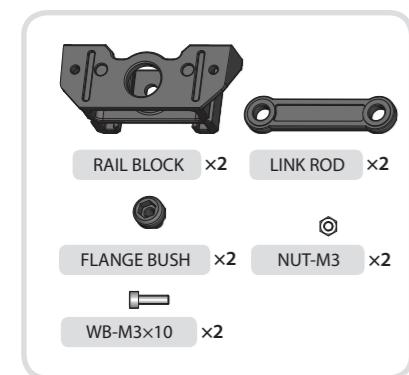
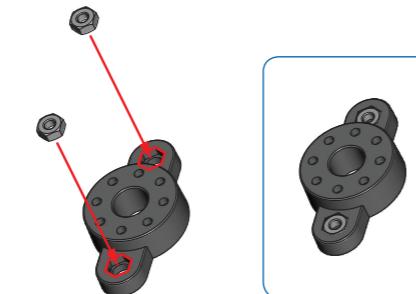
[DYNAMIXEL **ID 11, ID 15**] Remove described bolts.

[DYNAMIXEL **ID 12, ID 13, ID 14**] Pass the cable through hollow back case, DC12-IDLER, DC12-IDLER-CAP and DC12-P-BEARING and connect it into DYNAMIXEL.

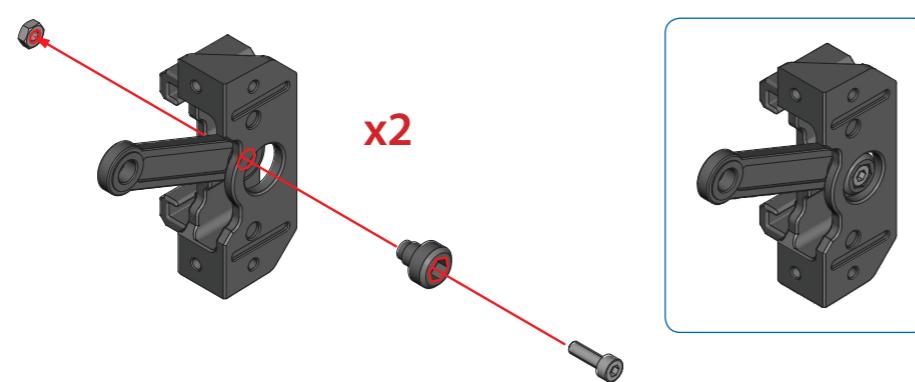




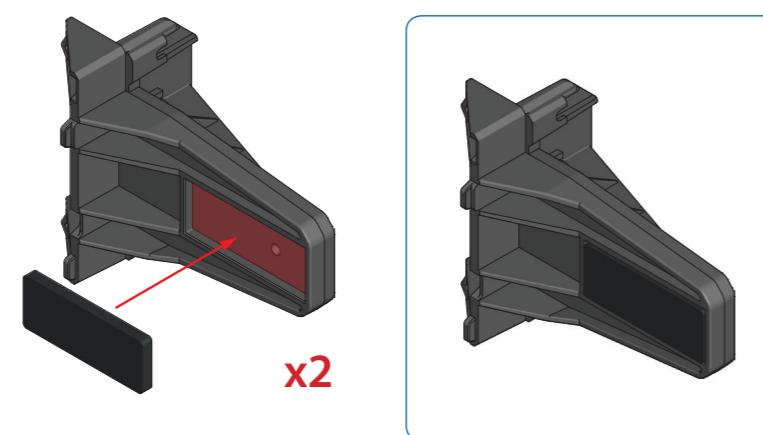
1 Insert **NUT-M3** from underneath the **CRANK ARM**



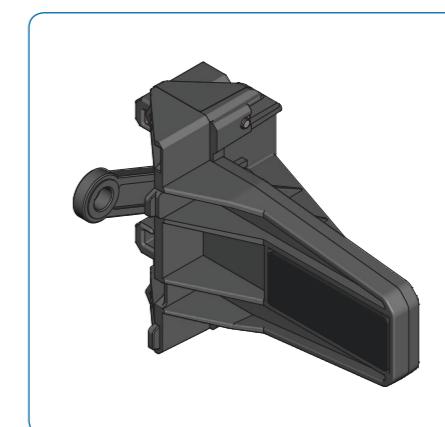
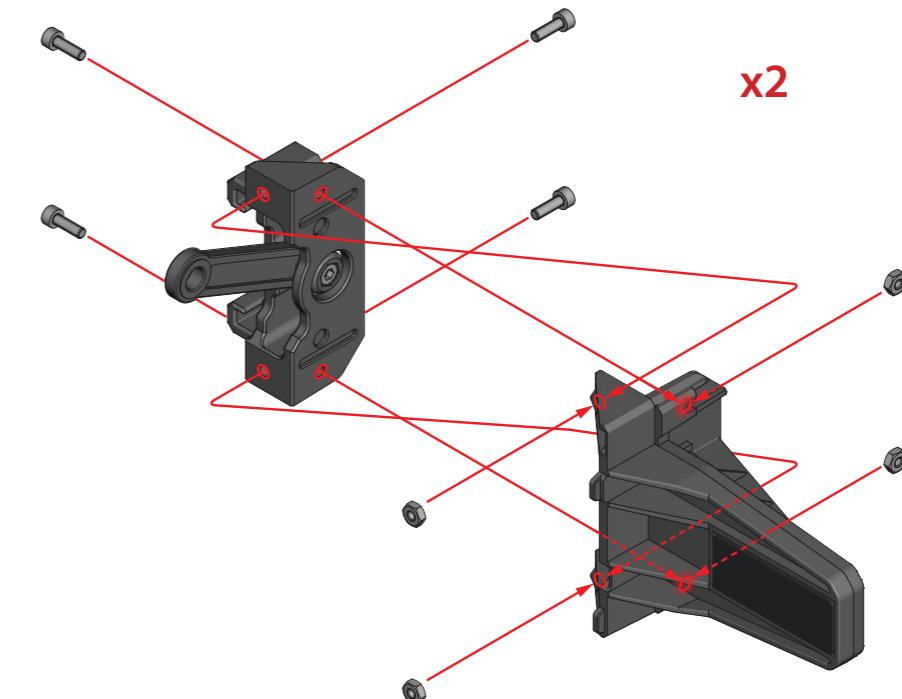
2 Assemble **LINK ROD** in the middle of the **RAIL BLOCK** using **FLANGE BUSH** and **WB-M3x10**

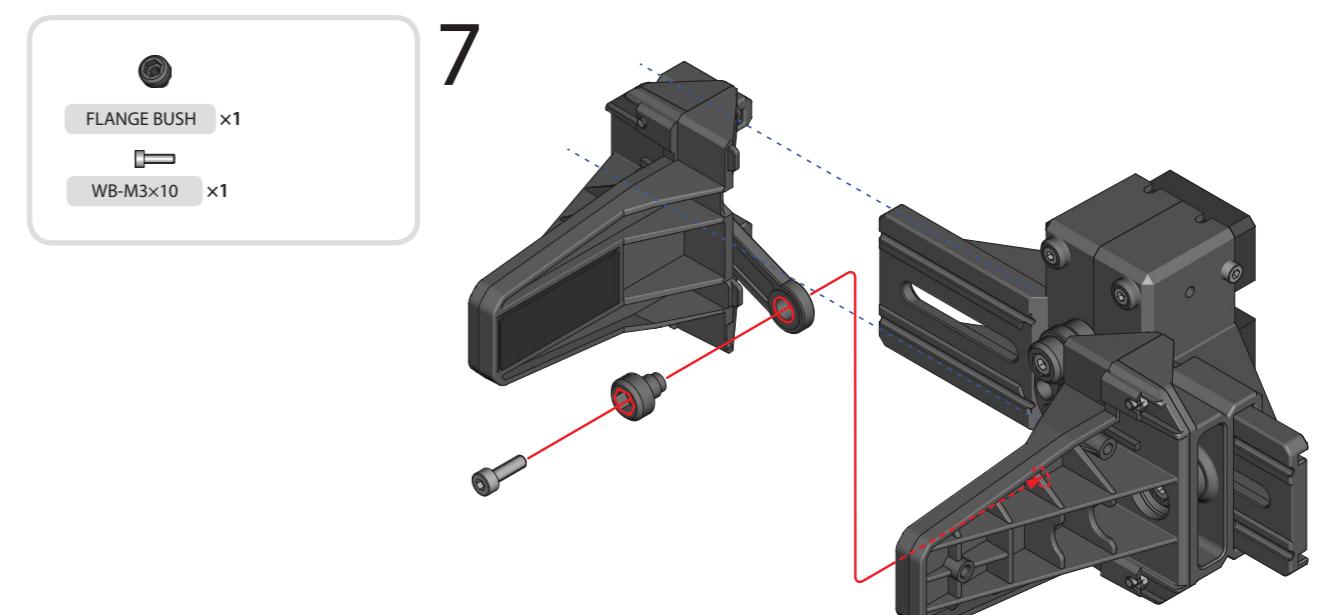
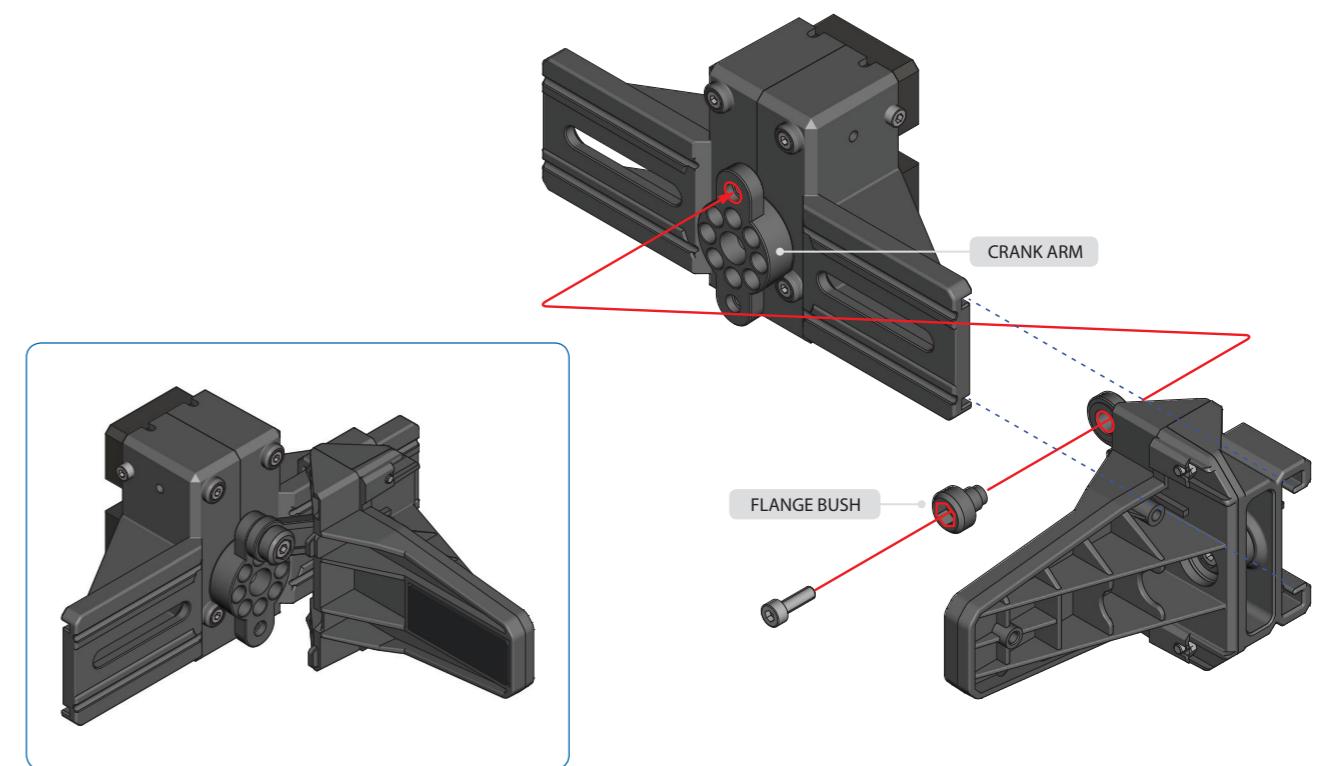
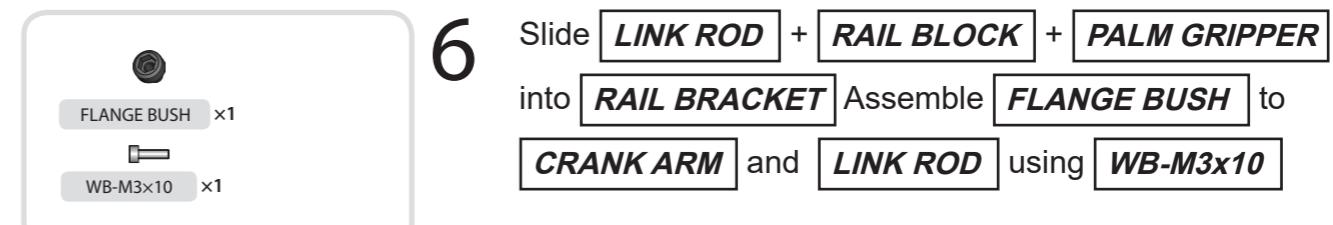
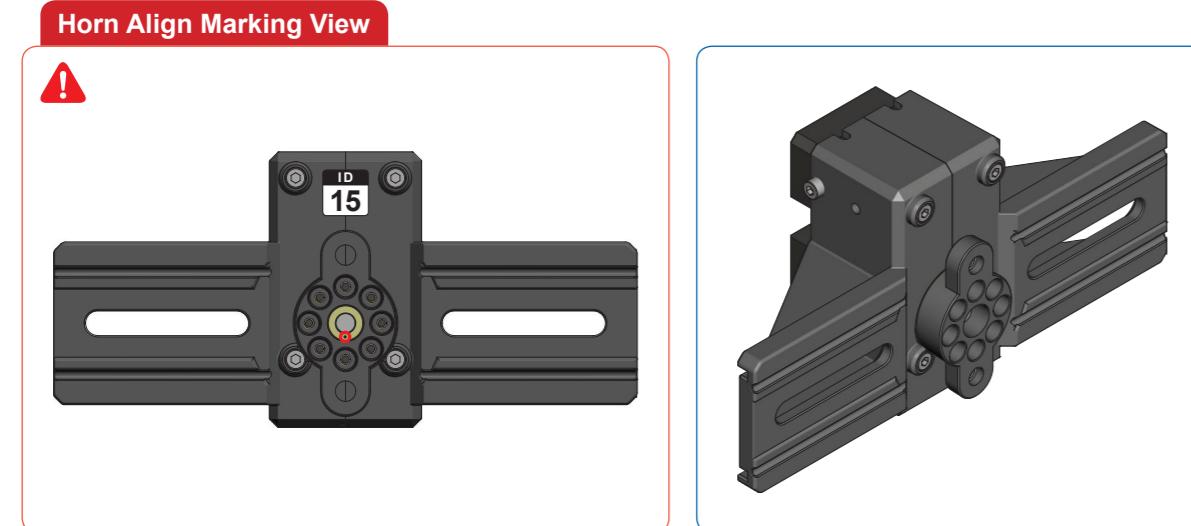
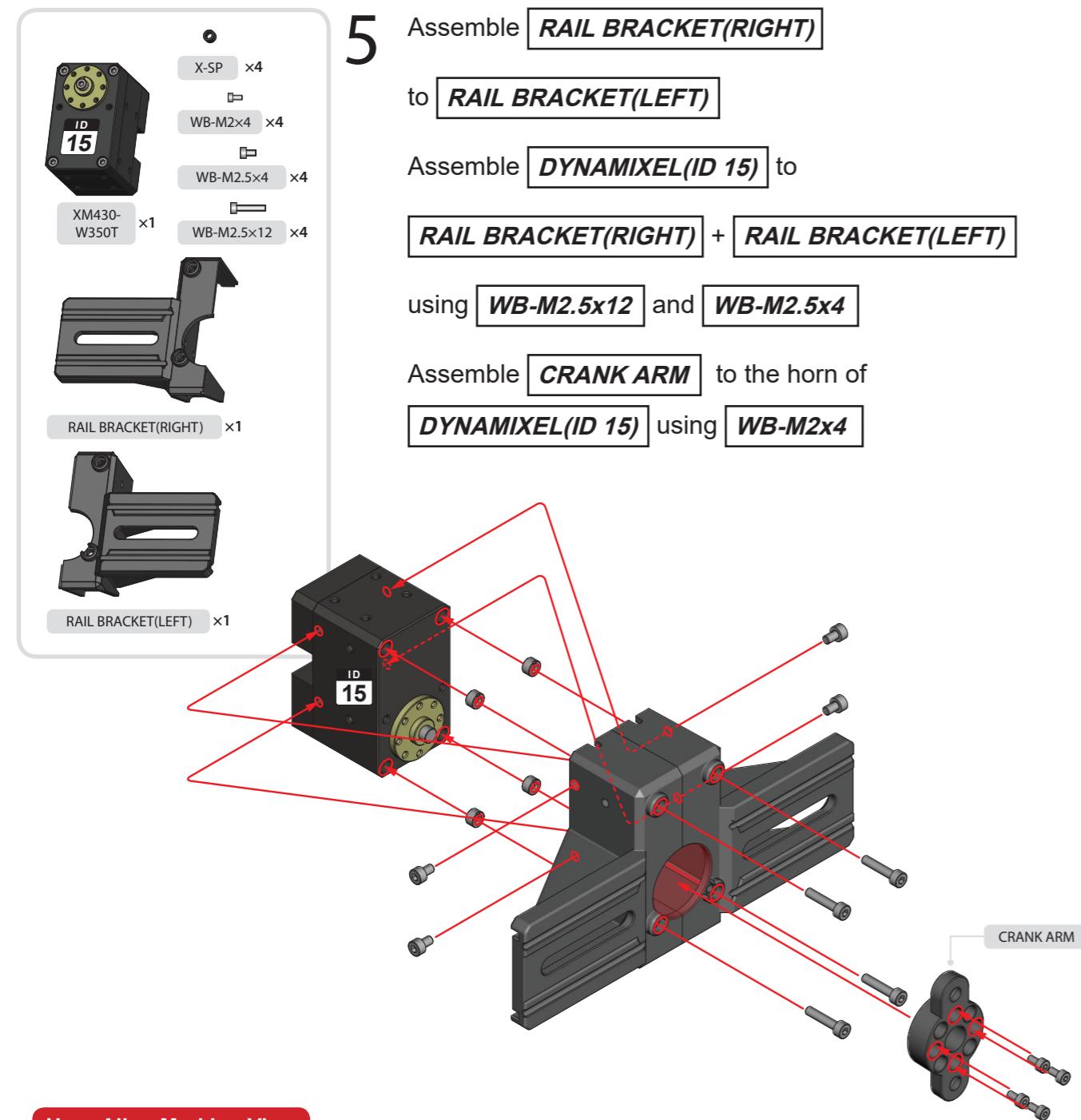


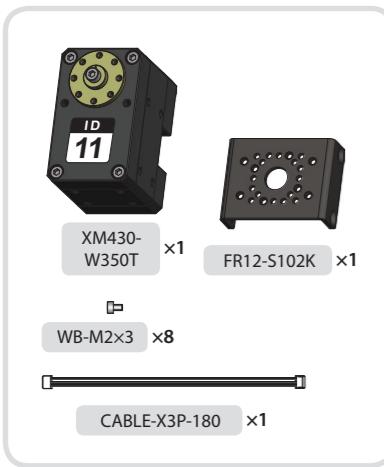
3 Attach **RUBBER PAD** to the inner side of the **PALM GRIPPER**



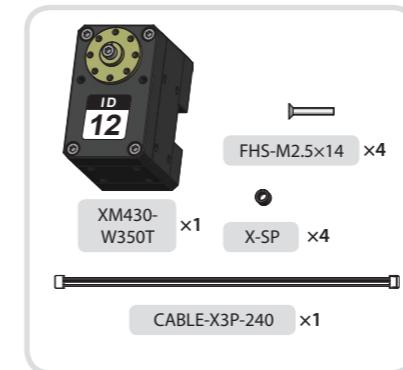
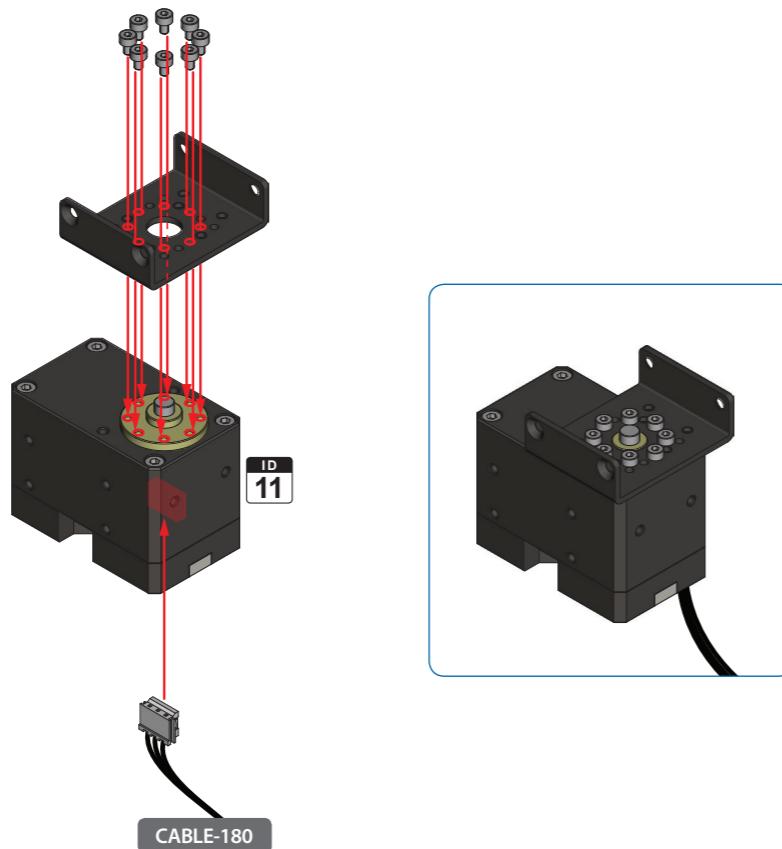
4 Assemble **LINK ROD** + **RAIL BLOCK** and **PALM GRIPPER** using **WB-M2.5x8** and **NUT-M2.5**



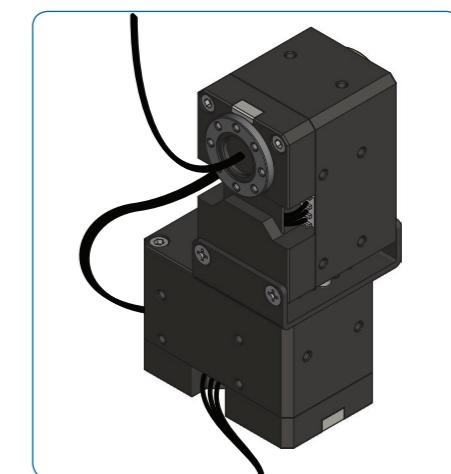
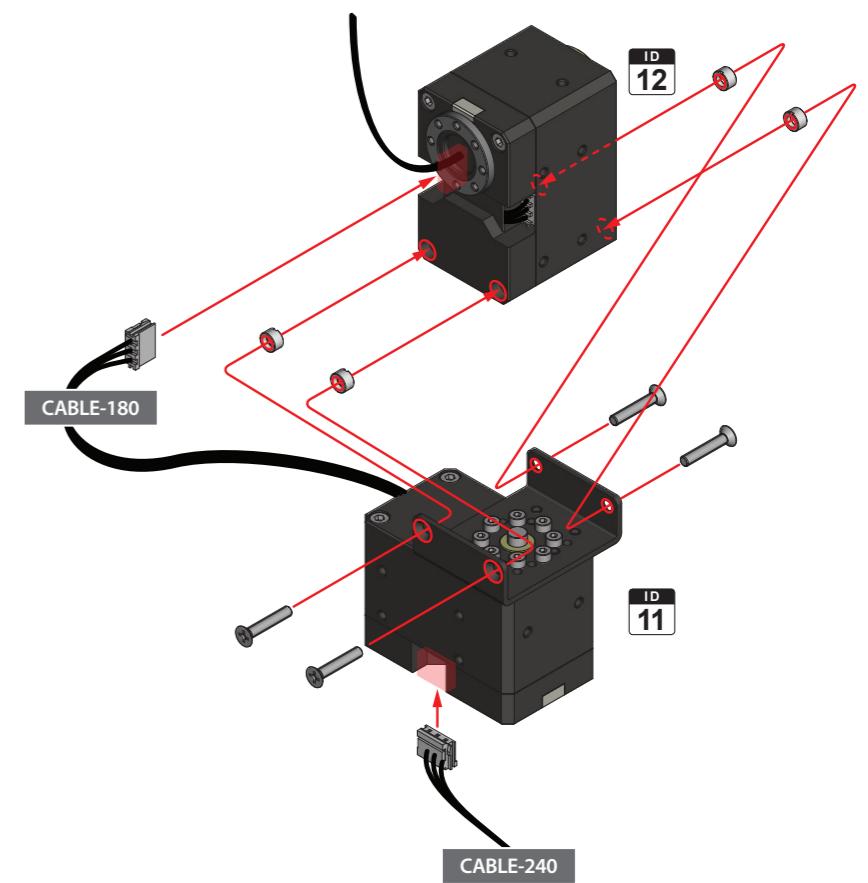




8
Assemble **FR12-S102K** and **DYNAMIXEL(ID 11)**
using **WB-M2x3**
Connect **CABLE-X3P-180** to **DYNAMIXEL(ID 11)**



9
Insert **X-SP** into the bolt holes of **DYNAMIXEL(ID 12)**
and assemble to **FR12-S102K** using **FHS-M2.5x14**
Connect **DYNAMIXEL(ID 12)** and **DYNAMIXEL(ID 11)**
using **CABLE-X3P-180**
Connect **CABLE-X3P-240** to **DYNAMIXEL(ID 11)**

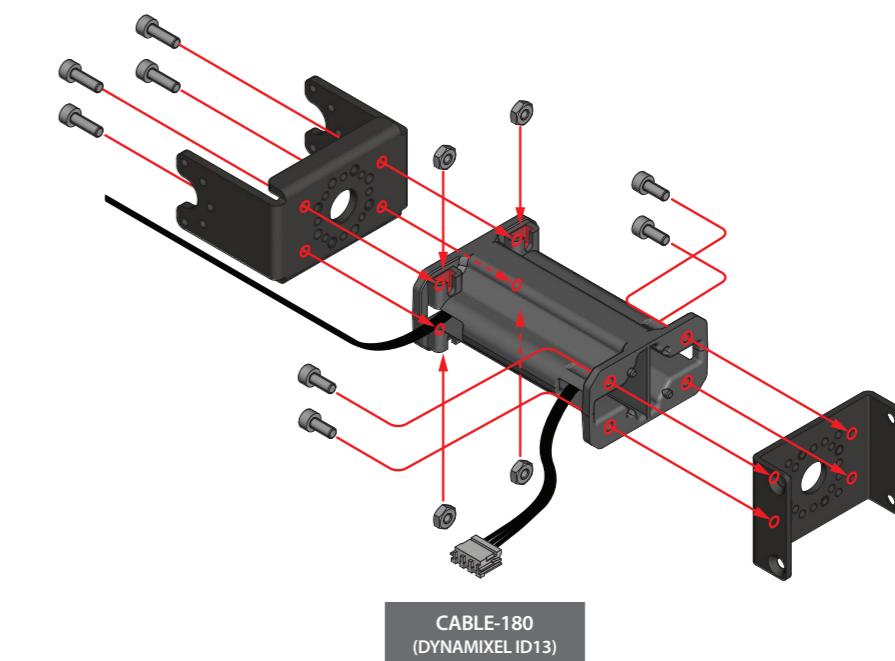
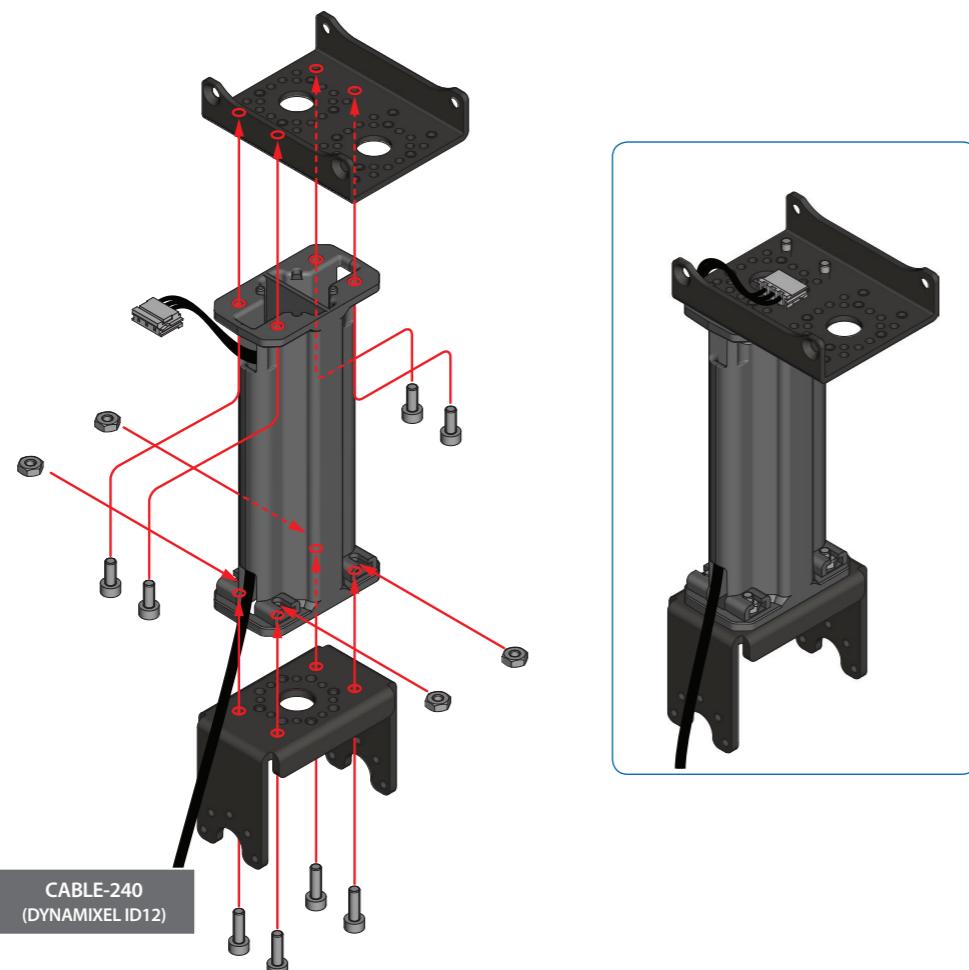




- 10** Pass **CABLE-X3P-240** from **DYNAMIXEL(ID 12)** through the hole of **LINK FRAME(LONG)**
 Assemble **FR12-H101K** to **LINK FRAME(LONG)** using **WB-M2.5x8** and **NUT-M2.5**
 Assemble **LINK FRAME(LONG)** to **FR12-S101K** using **WB-M2.5x6**

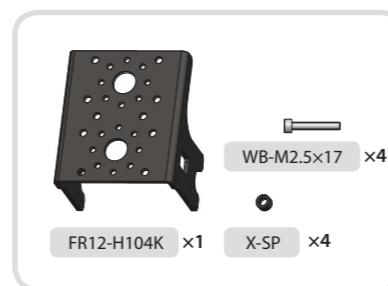
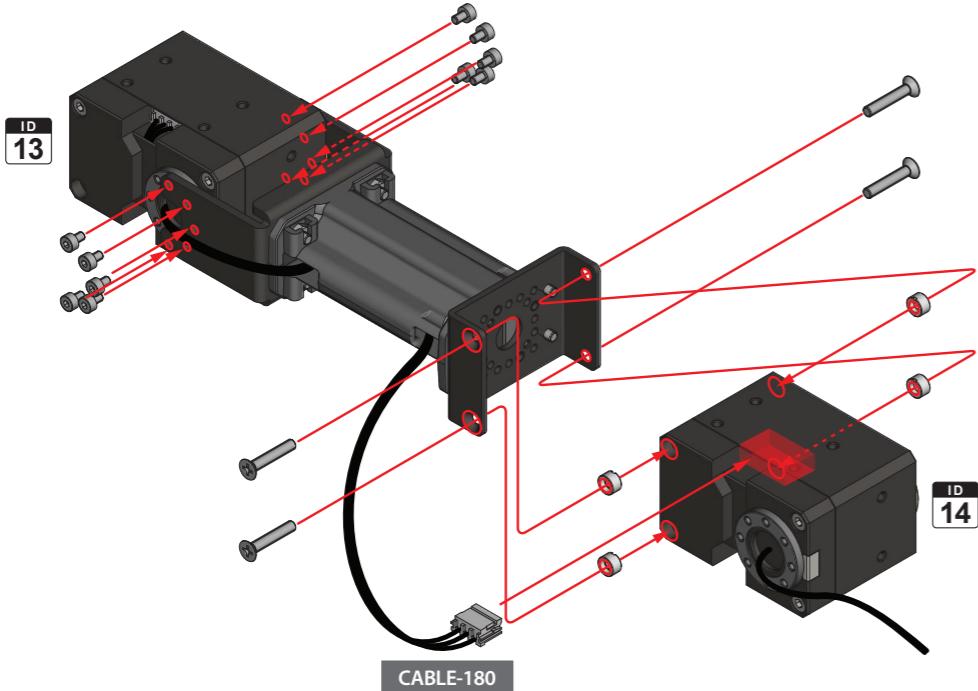


- 11** Pass **CABLE-X3P-180** from **DYNAMIXEL(ID 13)** through the hole of **LINK FRAME(SHORT)**
 Assemble **FR12-H101K** to **LINK FRAME(SHORT)** using **WB-M2.5x8** and **NUT-M2.5**
 Assemble **LINK FRAME(SHORT)** to **FR12-S102K** to using **WB-M2.5x6**

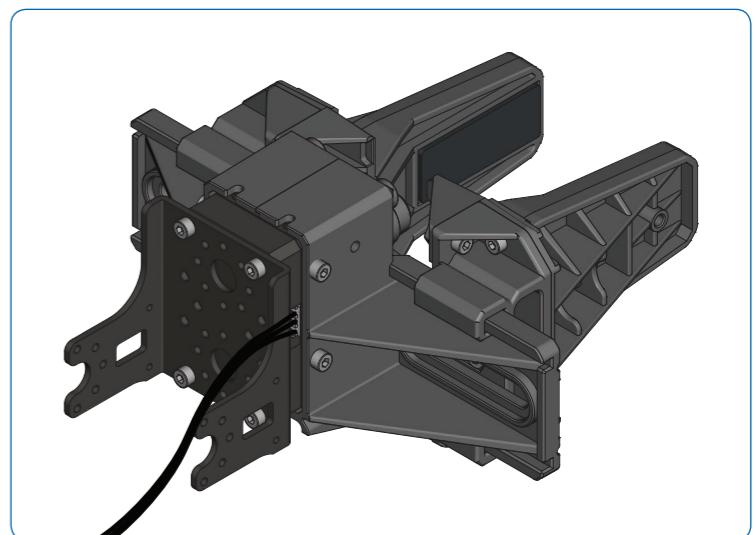
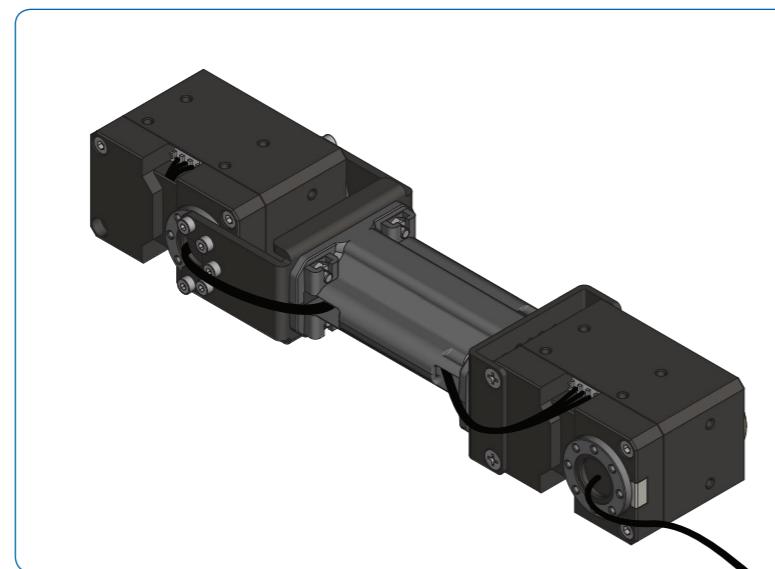
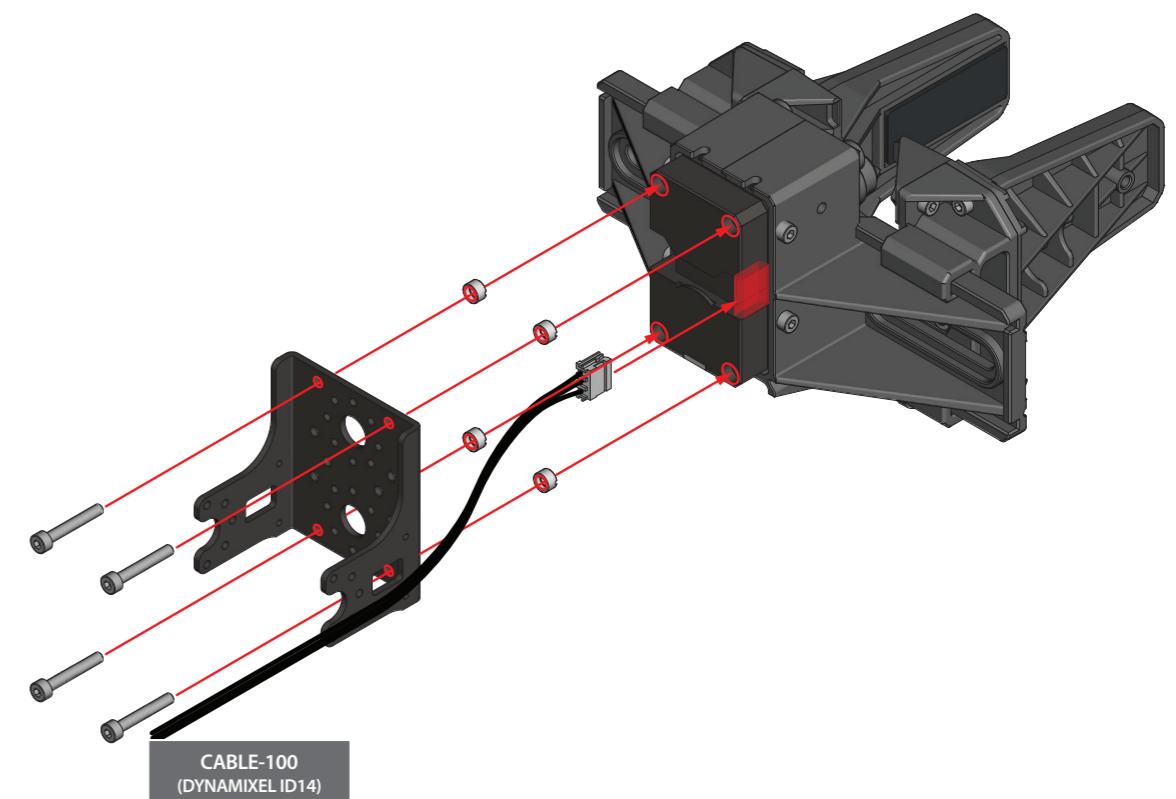




- 12** Assemble **DYNAMIXEL(ID 13)** to **FR12-H101K** using **WB-M2x3**
 Insert **X-SP** into the bolt holes of **DYNAMIXEL(ID 14)** and assemble to **FR12-S102K** using **FHS-M2.5x14**
 Connect **DYNAMIXEL(ID 13)** and **DYNAMIXEL(ID 14)** using **CABLE-X3P-180**

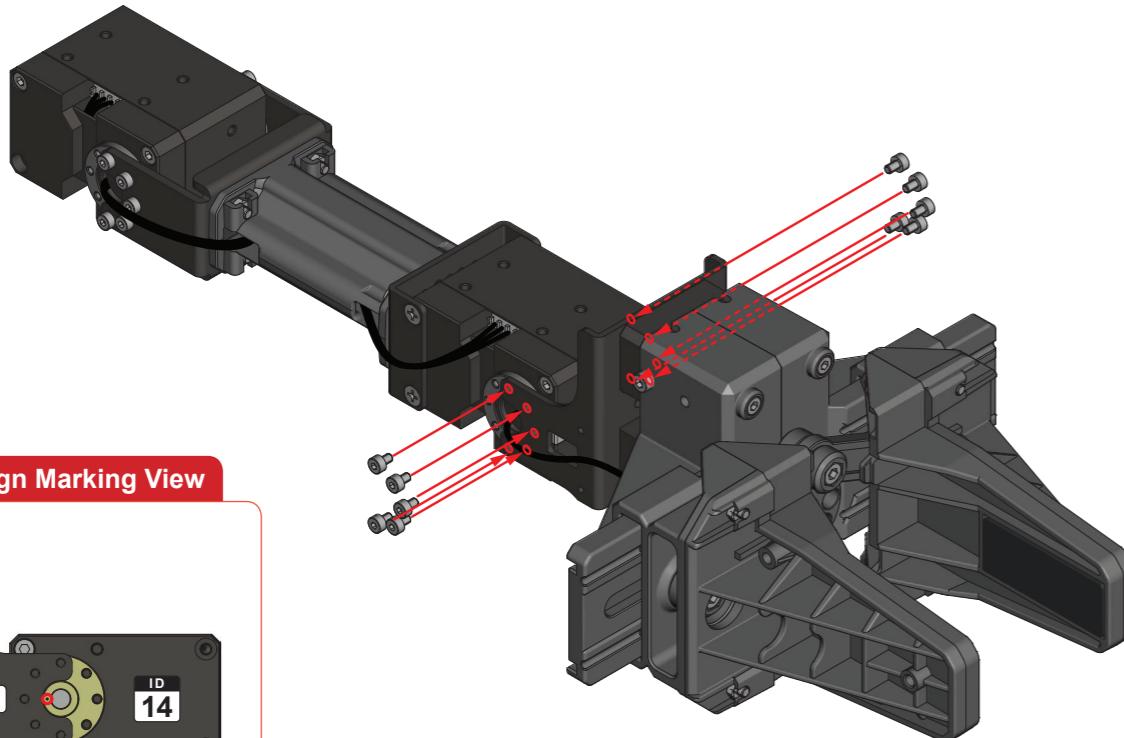


- 13** Connect **DYNAMIXEL(ID 14)** and **DYNAMIXEL(ID 15)** using **CABLE-X3P-100**
 Insert **X-SP** into the bolt holes of **DYNAMIXEL(ID 15)** and assemble **FR12-H104K** to Gripper using **WB-M2.5x17**

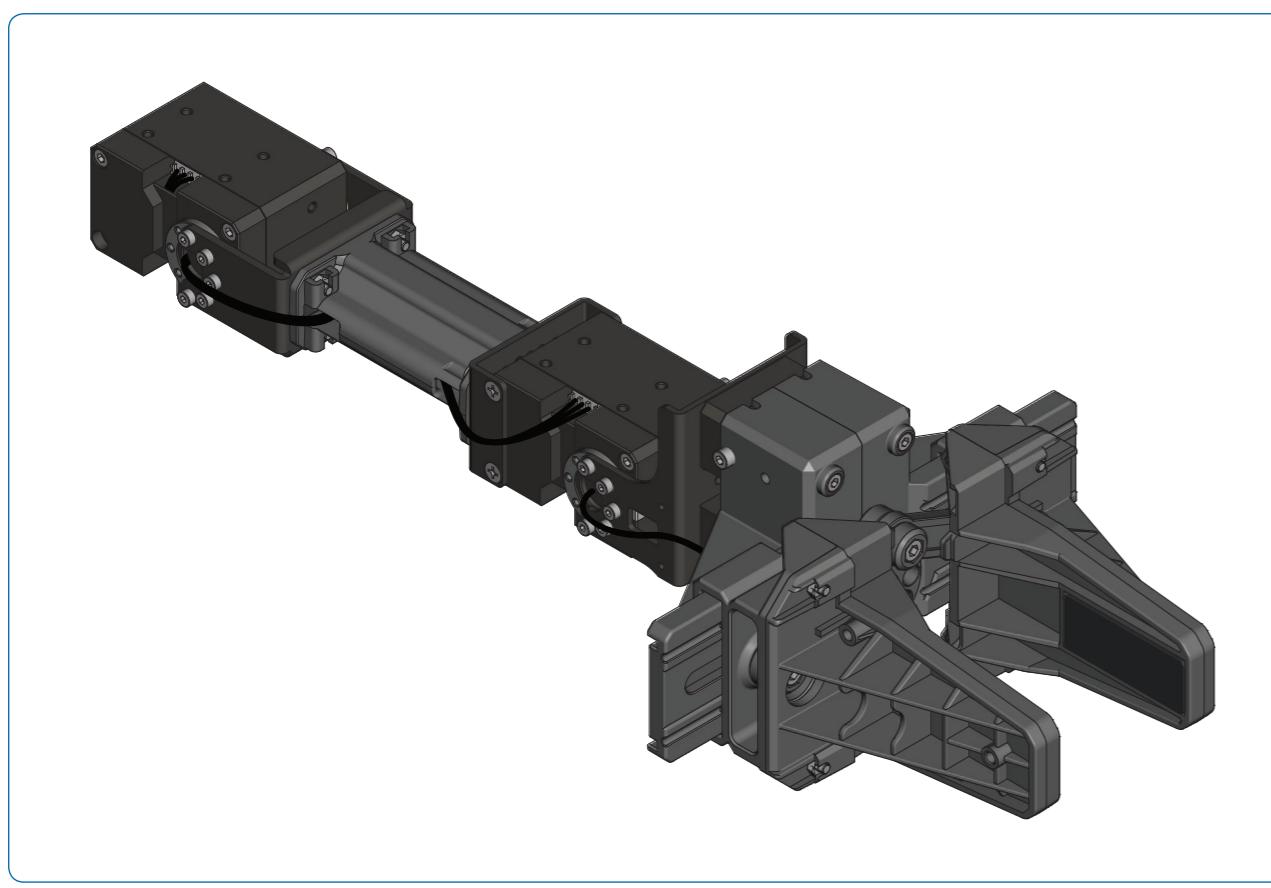
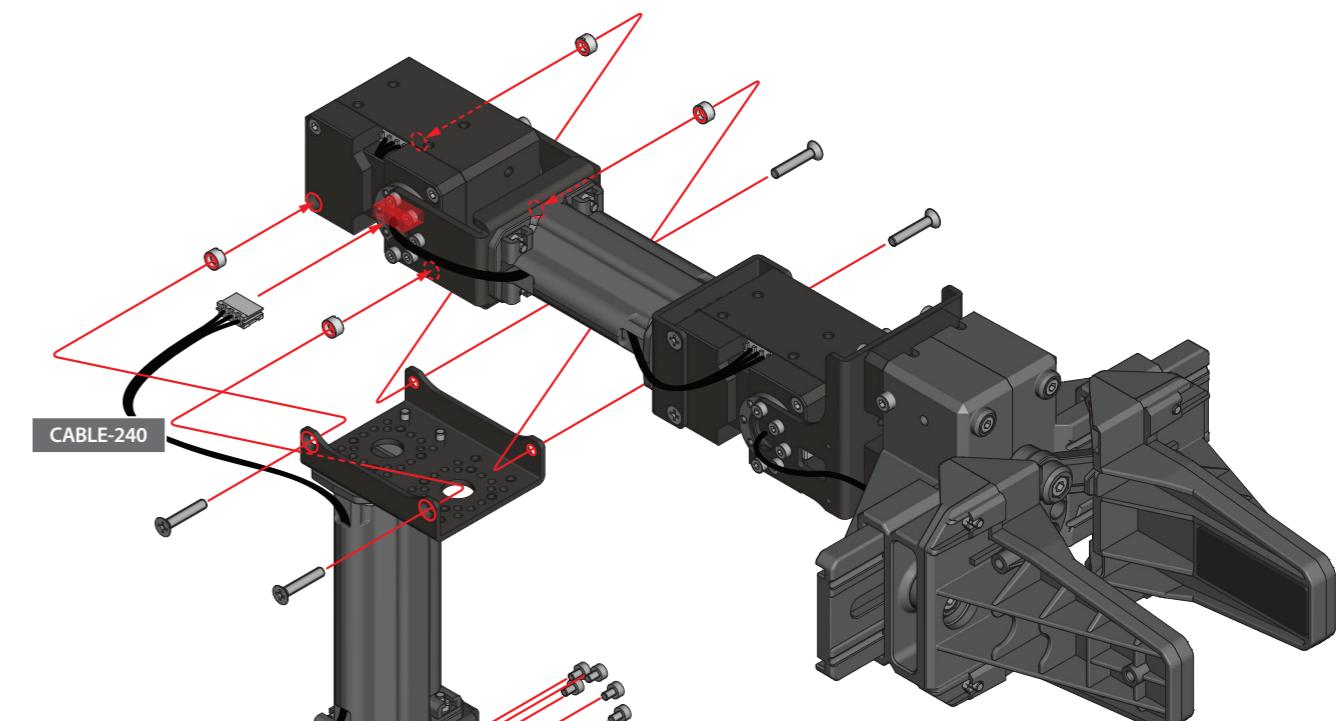


14 Assemble **DYNAMIXEL(ID 14)** and Gripper using
WB-M2x3

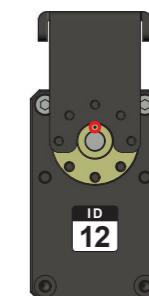
WB-M2x3 ×10



15 Connect **DYNAMIXEL(ID 12)** and
DYNAMIXEL(ID 13) using **CABLE-180**

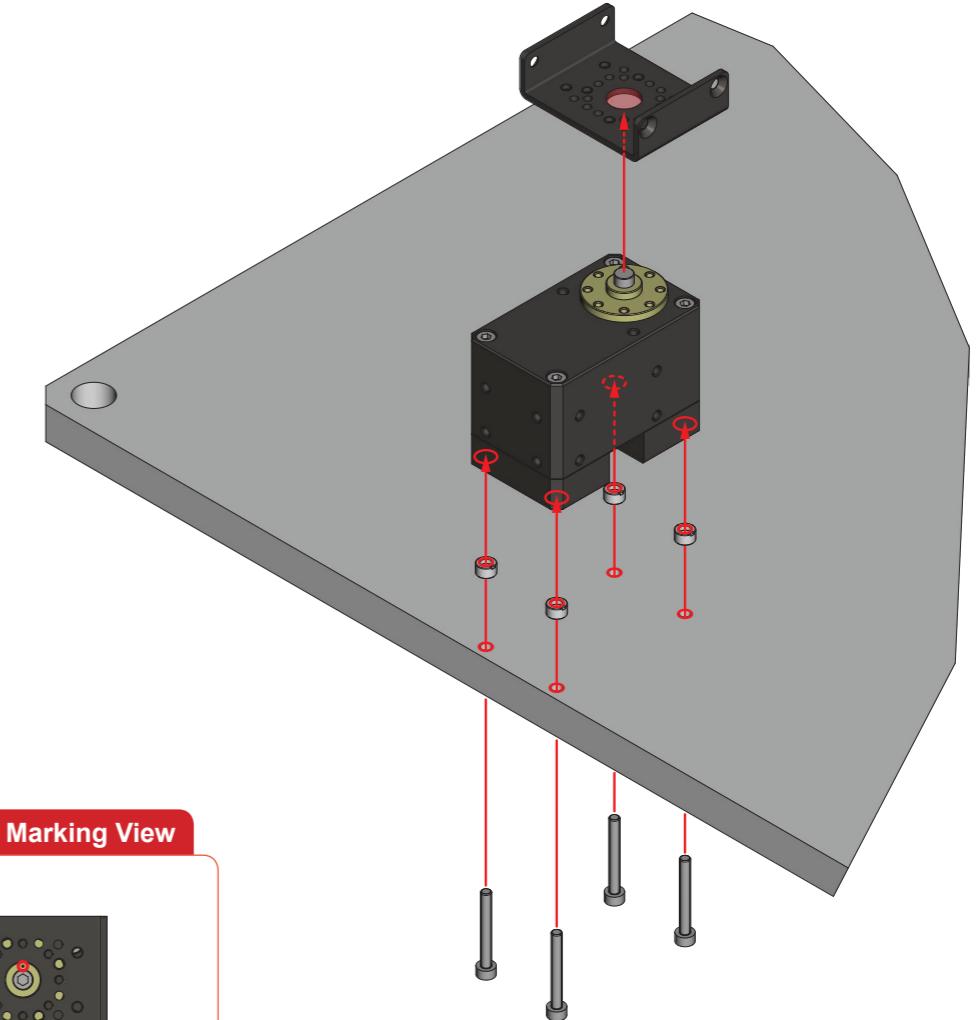
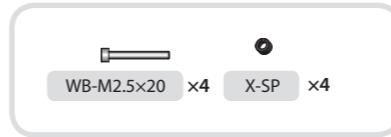
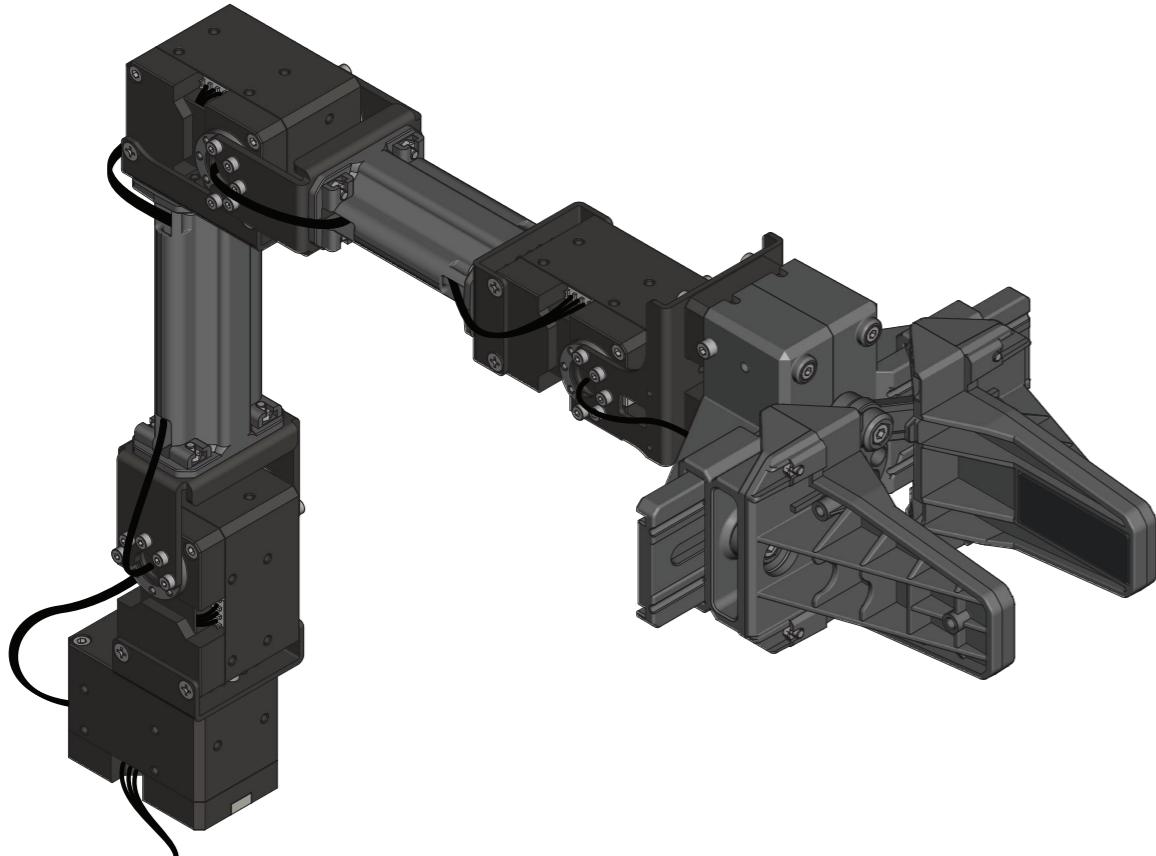
Assemble **DYNAMIXEL(ID 12)** using **WB-M2x3**Assemble **DYNAMIXEL(ID 13)** using **FHS-M2.5x14**
through **X-SP**

Horn Align Marking View



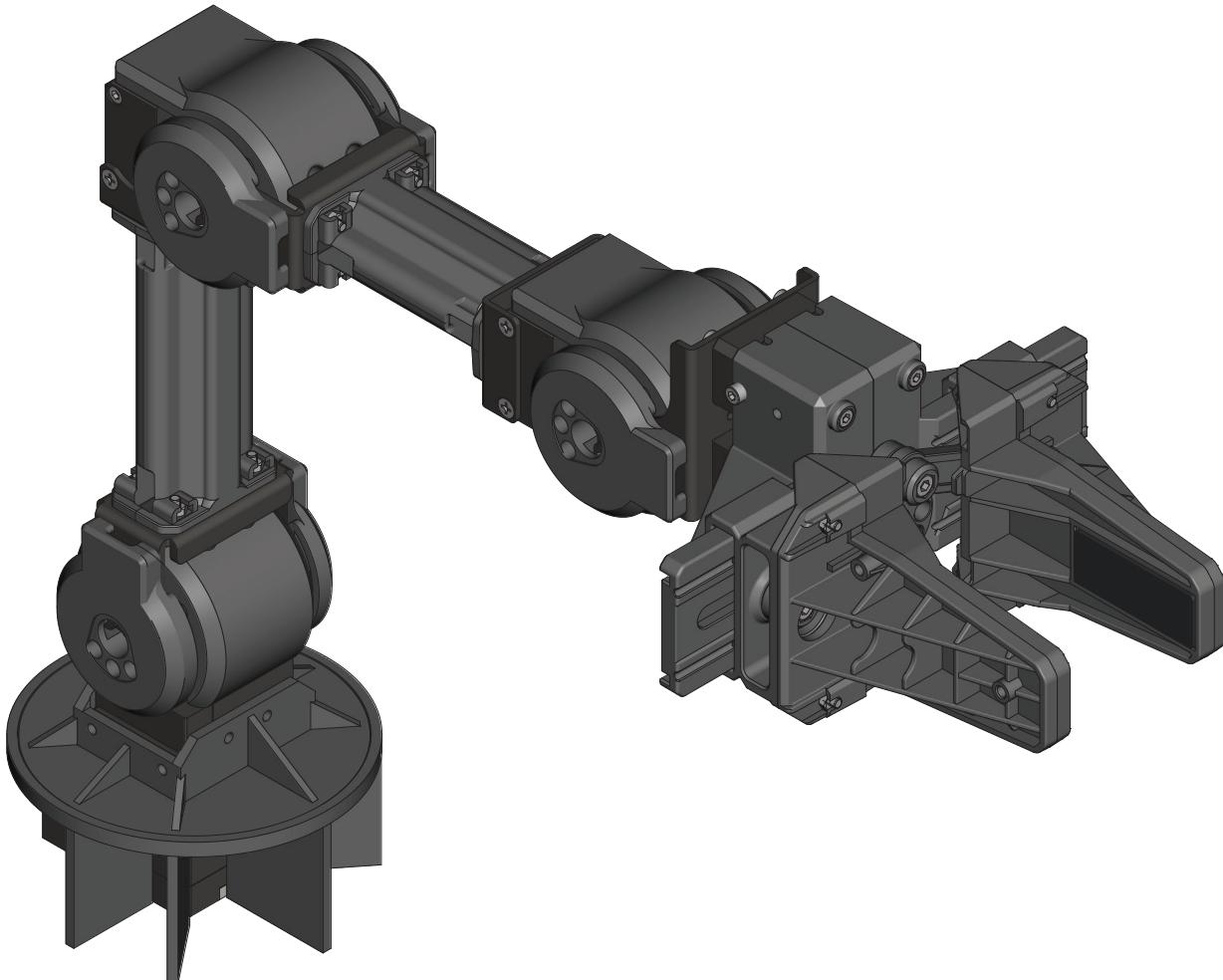
Appendix 1

Assemble **DYNAMIXEL(ID 11)** and **Base Plate-02** using **WB-M2.5x20**



Appendix 2

To prevent substance from getting caught between the DYNAMIXEL and frame, 3D printed optional parts can be attached to OpenManipulator-X. These parts can be downloaded from Thingiverse or Onshape. Please check the QR codes below.



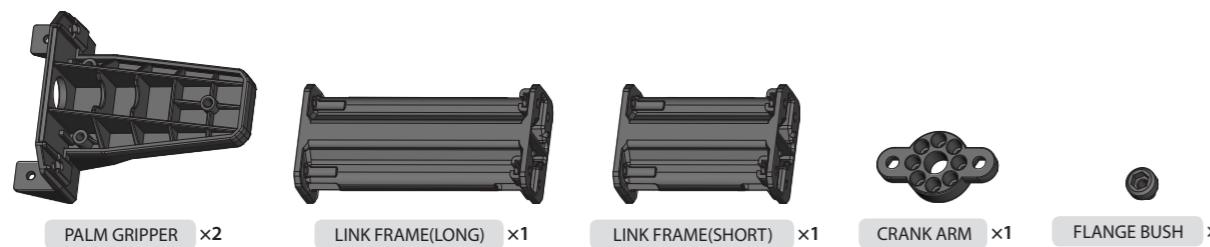
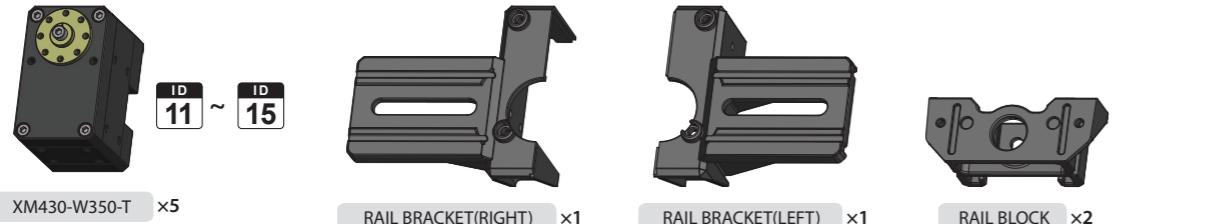
Thingiverse



Onshape



Parts List



FHS-M2.5x14 x12

WB-M2x3 x38

NUT-M2.5 x16

WB-M2x4 x4

NUT-M3 x4

WB-M2.5x4 x4

WB-M2.5x6 x8

WB-M2.5x8 x16

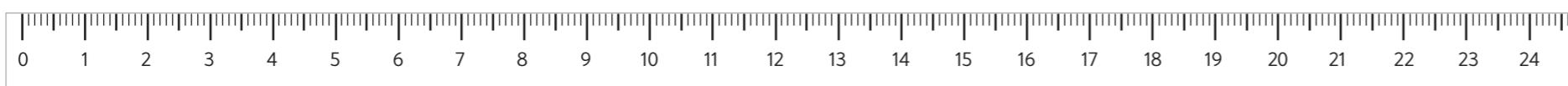
WB-M2.5x12 x4

WB-M2.5x17 x4

WB-M2.5x20 x4

WB-M3x10 x4

1:1





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